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The number but not the variety of nonprofit organizations affects donations: evidence from an experimen

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Abstract

We provide experimental evidence on the effect of competition among nonprofit organizations on the total and the per capita amount of collected donations. We vary the number of organizations in competition, their type, i.e., nonprofit associations and community foundations, and their charitable purposes, i.e., to help people with economic difficulties or disabilities. We show that the number but not the variety of nonprofit organizations positively affects the total collected donations. Moreover, we find that the latter is inelastic to the increase in the number of organizations in the competition, which increases the total collected donations but reduces the per capita donations.

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1. Introduction and related literature

A crucial issue for the nonprofit sector is the effect of competition on fundraising. In a seminal contribution, Rose-Ackerman (1982) shows that, in the absence of barriers to entry, the competition for donations is socially wasteful (see also Aldashev and Verdier, 2010). In fact, the competition for donations "reduces the level of service provision relative to funds raised for all charities" (Rose-Ackerman, 1982, p. 205). By considering labor unions, Hanna and Freeman (1987) show that the relation between density, in terms of the number of organizations competing for donations, and funding rates is curvilinear with an inverted U-shape. However, some evidence seems to question the robustness of this curvilinear relation when considering other types of nonprofit organizations, such as community foundations and racial or ethnic organizations (Minkoff, 1995; Guo and Brown, 2006).

Our study contributes to this strand of literature by providing an experimental analysis of the effects of competition in fundraising on the amounts of collected donations for single organizations and as a whole.[1] We study how competition affects donations when the number of organizations competing for donations, their types, i.e., nonprofit associations and community foundations, and their charitable purposes, i.e., assistance to people with economic difficulties or disabilities, vary.

At the theoretical level, some authors maintain that the increase in the number of organizations should result in the growth of the *total* donations as a consequence of the amplification of the exposure of potential donors to charitable activities, which may have positive impacts on their sensitivity and their willingness to donate (Guo and Brown, 2006; Graddy and Wang, 2009). In addition, the variety of organizations, both in terms of their types and in terms of their charitable purposes, increases the possibility to cover the spectrum of potential donors' "ideologies" (Rose-Ackerman, 1982). This is in line with the evidence that shows that nonprofits tend to differentiate themselves as a strategic response to market congestion (Barman, 2002).[2] Conversely, a theoretical analysis of the effects of the number and variety of organizations on the *per capita donations* that are collected by single organizations is missing in the literature. In fact, individual donations may increase or decrease when the number and/or the variety of organizations increase. It depends on the elasticity of the donations

[1] It is not the aim of this study to analyze other possible effects of competition among nonprofit organizations that may affect, for example, the organizational structures, donation prices, service quality or the focus of the charitable activities (Weisbrod and Dominguez, 1986; Posnett and Sandler, 1989; Tuckman, 1998; Marcuello and Salas, 2001; Eikenberry and Kluver, 2004).

[2] Over the last decades, the activities of nonprofit organizations over most of the world has grown exponentially (Casey, 2016) and huge heterogeneity characterizes the nonprofit sector, which spans "from large, multibillion dollar, mainstream, professionalized institutions that function similarly to for-profit firms and have close relations to governments and corporations, to small, hardscrabble all-volunteer organizations providing shoe-string services or pushing for systemic change from the fringe" (Casey, 2016, p. 189)

with respect to these factors, which, in turn, is affected by the magnitude of the effects of competition on donors' sensitivity and on the span of the "ideologies" that are covered.

The existing empirical and experimental evidence on the effect of competition on collected donations is mixed.

Oken and Weisbrod (2000) find that fundraising expenditures have a direct positive effect on donations, but they indirectly reduce donations by increasing the "price" of donating, that is, the average share of total revenue that is devoted to output. The authors show that, in general, the total effect of fundraising is positive and that the amount of resources that is devoted to fundraising by nonprofit organizations does not maximize their net profits from fundraising. Guo and Brown (2006) find that organizational density, which is measured as the ratio of the community foundations in a state to the Gross State Product of the state, positively affects fiscal efficiency, which is the foundation's total revenues divided by their total expenses minus any grants that were allocated in the last fiscal year, and negatively affects grant-making performance, which is measured as the ratio between total grants and total assets. Thornton (2008) shows that an increase in competition may result in a reduction of the per capita fund-raising expenditures by nonprofit organizations. However, the author shows that, collectively, nonprofits organizations may devote an inefficiently high share of their revenues to fundraising. Focusing on community foundations operating in the US, Graddy and Wang (2009) do not find a positive effect of the number of foundations in a county on the ratio between the total donations that are received by foundations and the county's population. Moreover, they do not find detrimental effects on the latter variable of the donations that are collected by charitable organizations that are not community foundations, therefore corroborating the idea of a positive effect of variety on total gifts. Omura and Forster (2014) find a positive, but decreasing, effect of nonprofit organizations' total fundraising expenditures on total donations. Moreover, they conclude that nonprofit organizations that compete for donations generate a negative effect on the donations that are collected by other organizations having similar functions.

As far as experimental evidence is concerned, Lange and Stocking (2012) carry out a field experiment involving more than 288,000 individuals and two charities having different objectives concerning environmental issues. The authors provide evidence for complementarities between the two charities. In fact, the members of a charity who also became members of the second one and who are solicited for donations from the latter tend to donate more time and money to both as a whole and to the original charity to which they belong. Filitz-Ozbay and Uler (2018) find experimental evidence of a positive effect on the donations that are collected by charities that offer subsidies in the form of rebates. However, when the charities that are in competition have similar objectives, the positive effect of

rebates is at the expense of the other charities that receive lower collected donations. Conversely, when charities with complementary causes are considered, donations to both charities increase when one of them increases its rebate rate. Finally, when the opportunity costs of rebate campaigns are considered, the total donations minus the rebate costs decrease as the rebate rate that is offered by one of the charities increases.

Our experimental analysis provides empirical support for the positive effect of the number of organizations on total donations. However, the increase in donations is less than proportional to the increase in the number of organizations that compete for gifts. Finally, we do not observe any effect of variety on donations, either considering the types of organizations or the charitable purposes.

The rest of the paper is organized as follows. In section 2, we describe our experimental design and provide the descriptive statistics on the sample of subjects that are involved in the experiment. In section 3, we illustrate the main theoretical hypotheses of this study and analyze them by using experimental data. Section 4 concludes.

2. The experiment

2.1 Experimental design and procedures

The experiment was conducted in a room in the library at the University of Parma in the northwest of Italy, and it consisted of four treatments: Single association, Two associations, Association and disability fund, and Association and poverty fund (see Appendix A for the experiment's instructions). In each treatment, the participants were paid a show-up fee of €5. Then, they received fifteen cards with the inscription "€1" on each, an envelope with the inscription "Personal", and two or three copies (depending on the treatment) of a randomly generated personal code. At this point, they were asked to make a decision regarding the distribution of their "€1" cards.

In the Single association treatment, in addition to the "Personal" envelope, they received another envelope with the title "Association" and the following text written on it.

Text on the "Association" envelope

ASSOCIATION

The association to which you give using this envelope is a nonprofit association that is based and operating in the province of Parma. The nonprofit association is a body under private law that is prohibited from distributing profits. The nonprofit association collects resources that are to be allocated to socially important projects and initiatives in the reference community.

One of the tools of the nonprofit association is donations from individual donors that are used to support certain activities.

The association to which you give using this envelope has the main purpose of helping people who are not self-sufficient and have disabilities.

Note that the name of the association was not revealed until the end of the experiment (see below).

The Two Associations treatment was the same as the Single association one, but now participants received two "Association" envelopes with the same text as that above, but with two different headings: "Association 1" and "Association 2". They were informed that even if the description on the two envelopes was the same, the two envelopes would have been used to collect donations for two separate associations.

In the Association and disability fund treatment, participants received one "Association" envelope that was identical to the one that was used in the Single association treatment and one "Fund" envelope with a description of a community foundation's fund that provided the same services in the same province of the "Association".

Text on the "Fund" envelope in the Association and disability fund treatment

FUND

The fund to which you give using this envelope is a community foundation fund-based and operating in the province of Parma.

The community foundation is a nonprofit organization under private law that is prohibited from distributing profits.

The funds are instruments of community foundations that are created and desired by the promoters who started the fund using an initial donation. The funds are aimed at supporting the specific projects that are chosen from time to time by the promoters of the fund. The funds can be used to finance the projects of nonprofit bodies and associations or socially important individual projects and initiatives in the reference community.

The Fund to which you give using this envelope has the main purpose of helping people who are not self-sufficient and have disabilities.

Finally, in the Association and poverty fund treatment, in addition to the same "Association" envelope that is used in the other treatments, the participants received a "Fund" envelope describing the community foundation's fund as providing financial assistance to poor families in the same province of the "Association".

Text on the "Fund" envelope in the Association and poverty fund treatment

FUND

The fund to which you give using this envelope is a community foundation fund-based and operating in the province of Parma.

The community foundation is a nonprofit organization under private law that is prohibited from distributing profits.

The funds are instruments of community foundations that are created and desired by the promoters who started the fund using an initial donation. The funds are aimed at supporting the specific projects that are chosen from time to time by the promoters of the fund. The funds can be used to finance the projects of nonprofit bodies and associations or socially important individual projects and initiatives in the reference community.

The fund to which you give using this envelope has the main purpose of helping people and families in financial difficulties.

At the beginning of the experiment, the participants were welcomed to the room and were asked to take a place in the room. All the stations were equipped with boxes that served as separators and allowed decisions to be made in complete privacy. The instructions were handed to them in written form before being read aloud by the experimenter.

In each treatment, the participants' decisions consisted of distributing the fifteen "1€" cards in the envelopes. They must determine the amounts of money to keep and to donate, attach the personal codes to each envelope and place the envelopes in a box.

In addition, after this first decision, the participants were asked to make another decision in which they have been provided with a "Personal" envelope and a "Fund" envelope. In this decision, we manipulated the description of the fund, ranging from a minimal to a more detailed description of it. This part of the experiment will be not discussed in this paper.

The participants were informed that only one of the two decisions would be randomly selected by tossing a coin and that they would receive 1€ for each card that remained in their "Personal" envelope in the randomly selected decision.

Moreover, they were informed that at the end of the experiment, the amounts that were collected for each association or fund would be donated by means of an online bank transfer and that they would have the opportunity to assist in the transfer and know the names of the associations and of the community foundation funds.

2.2 Descriptive statistics and nonparametric tests on the experimental sample

As a whole, 179 subjects took part in the experiment. A total of 48.02% were female, 73.74% were students who were mainly enrolled in Bachelor programs in economics or political science, 2.23% were retired, 5.59% were unemployed and 18.44% were employed. The subjects were recruited using the same text[3] through announcements in classrooms at the University of Parma and the newsletters

[3] The description of the research in the recruiting text used neutral language. "We make decisions all the time in our lives. Sometimes they are simple and quick decisions to make; sometimes they are decisions that require time and reflection, sometimes they are decisions that affect only us, and sometimes they affect others as well. The aim of the research is to

and mailing lists of a second-level association based in Parma.[4] 46 subjects were involved in the Single association treatment, 39 in the Two associations treatment, 49 in the Association and disability fund treatment and 45 in the Association and poverty fund.

A series of nonparametric tests (Table 1) reveal some statistically significant differences (5% significance level) between the characteristics of the subjects that were involved in the different treatments. In particular, we find differences in terms of age (between the subjects that were involved in the Two associations treatment and those in the Single association, Association and poverty fund and Association and disability fund), and gender (between the subjects that were involved in the Two associations treatment and those in the Association and disability fund). No differences emerge with respect to the presence of students in the various treatments, while weakly significant differences (10% level) characterize the subjects that were involved in the Two associations treatment vs. those in the Single association in terms of income and gender.

Table 1 - Characteristics of subjects involved in the different treatments

	H_0: T 1 = T 2	H_0: T 1 = T 3	H_0: T 1 = T 4	H_0: T 2 = T 3	H_0: T 2 = T 4	H_0: T 3 = T 4
Gender	Pearson chi2(1) = 2.8964 Pr=0.089	Pearson chi2(1) = 0.1263 Pr = 0.722	Pearson chi2(1) = 0.0448 Pr = 0.832	Pearson chi2(1) = 4.2737 Pr = 0.039	Pearson chi2(1) = 2.2573 Pr = 0.133	Pearson chi2(1) = 0.3265 Pr = 0.568
Age	Test= -3.440 Prob > |z| = 0.0006	Test= 1.410 Prob > |z| = 0.1586	Test= 1.207 Prob > |z| = 0.3042	Test= -4.655 Prob > |z| = 0.0000	Test= -4.380 Prob > |z| = 0.0000	Test= 0.306 Prob > |z| = 0.7596
Student	Pearson chi2(1) = 0.3645 Pr = 0.546	Pearson chi2(1) = 0.2388 Pr = 0.625	Pearson chi2(1) = 0.0039 Pr = 0.950	Pearson chi2(1) = 1.1473 Pr = 0.284	Pearson chi2(1) = 0.4362 Pr = 0.509	Pearson chi2(1) = 0.1784 Pr = 0.673
Income	Pearson chi2(4) = 8.4899 Pr = 0.075	Pearson chi2(4) = 3.0793 Pr = 0.545	Pearson chi2(4) = 1.7455 Pr = 0.782	Pearson chi2(4) = 4.4018 Pr = 0.354	Pearson chi2(4) = 5.0899 Pr = 0.278	Pearson chi2(4) = 1.0013 Pr = 0.910

Legend: Single association treatment= T 1, Two association treatment=T 2, Association and disability fund treatment= T 3, and Association and poverty fund treatment=T 4. *** p<.01, ** p<.05, and * p<.1. *Gender*: dummy =1 if the subject is a female; *Age*: subjects' age in year; *Student*: dummy = 1 if the subject is a student; and *Income:* level of income of the subject's household, which is measured on a 5-level scale between 1 (less than 15,000€) and 5 (more than 75,000€). Chi Square tests have been run for *Gender*, *Student* and *Income* and Wilcoxon-Mann-Whitney tests for *Age*.

study economic decisions in different contexts of choice. Participation is established as the opportunity to receive a cash payment, as explained below. If you decide to participate, you will be asked to make simple decisions. To make these decisions, each participant will be given a sum of money that can be used in different ways. Your final gain will depend on your decisions. In any case, a minimum refund of 5 euros is guaranteed. You will also be asked to fill in a questionnaire about your opinions about today's society. The choices and answers you provide will remain anonymous, and the data will be analysed and presented in aggregate form, so it will not be possible to associate choices and answers to individuals. The results of the research will be presented in a meeting for which you will receive an invitation to participate."

[4] Second-level associations are voluntary associations of individuals. Their institutional goals are to support their members in their activities, such as by providing training courses.

To control for these differences, in the next section, we conduct both descriptive and nonparametric analyses and apply a multivariate approach.

3. Theoretical hypotheses and empirical analysis

3.1 Theoretical hypotheses

Given the introduction, we put forward the following two main hypotheses to be analyzed using the experimental data.

H1 – The number of organizations positively affects the total donations

Since the presence of more nonprofit organizations could positively influence the sensitivity of donors to charitable activities (Guo and Brown, 2006; Graddy and Wang, 2009), we expect an increase in the overall level of donations as the number of competing organizations increases.

H2 – *An increase in the variety of organizations positively affects the total donations*

Because a greater variety of organizations allows them to cover more of the donors' ideological spectrum (Rose-Ackerman, 1982), we expect an increase in the overall level of donations as the variety of competing organizations increases (in terms of the types of organizations and the purposes of beneficial activities).

Conversely, the existing theoretical arguments do not allow us to elaborate a hypothesis with regard to the effect of competition on the amount of donations that are collected by single organizations. In fact, it depends on the elasticity of the aggregate amount of donations in relation to fundraising, which in turn depends on the magnitude of the effects of competition on donors' sensitivity and on the coverage of the ideological spectrum; and on the effects of the latter on donations. These effects have not been clearly theoretically identified or empirically measured.

3.2 Empirical analysis

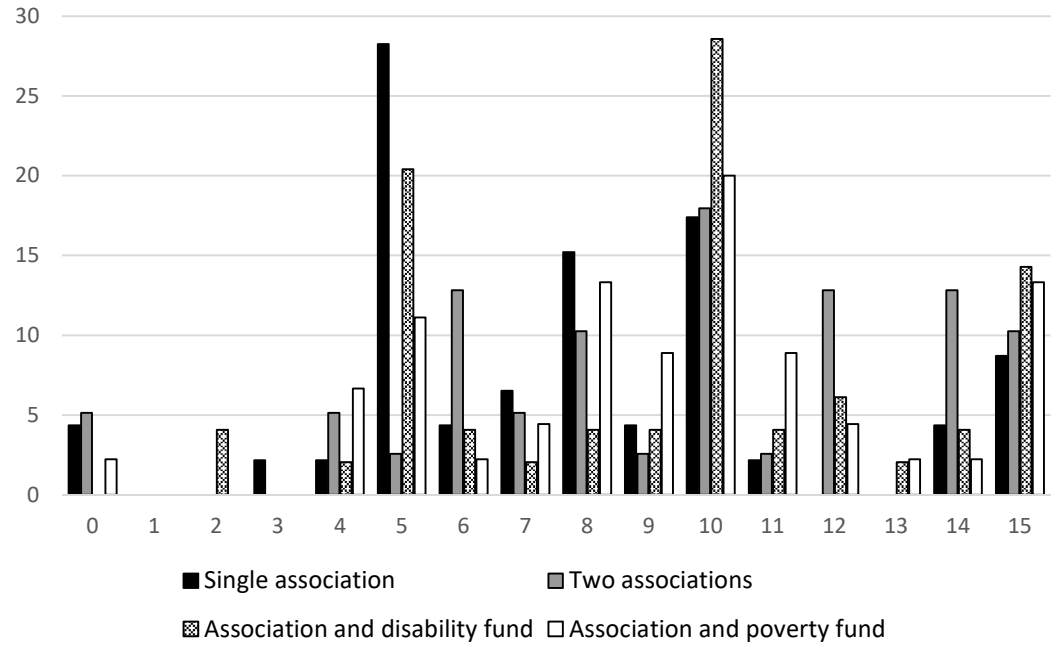
Number of organizations and total donations

To provide empirical evidence on H1, we compare the Single association and the Two associations treatments.

The average donation of subjects in the Single association treatment is equal to 7.78 (std. dev. 3.67). 4.35% of the subjects donated nothing, 8.70% donated all their endowments and the modal value is 5 euros that was donated by 28.26% of the subjects. In the Two associations treatment, the average donation is 9.46 (std. dev. 3.98), 5.13% of subjects do not donate anything, 10.26% donate 15 euros

and the modal value is 10 euros that was donated by 17.95% of subjects. Figure 1 illustrates the percentages of subjects' who donated the different possible amounts across the treatments.

Figure 1 – Donations across treatments (%)



Here, we see that the donations in the Two associations treatment are greater than those in the Single association treatment (Wilcoxon rank-sum (Mann-Whitney) test= 2.230 Prob > |z| = 0.0258).

Econometric estimates confirm that the subjects that were involved in the Two associations treatment tended to donate more than those that were involved in the Single association treatment. We run both an OLS estimate for the subsample of subjects who participated in these two treatments and an OLS estimate for all subjects who participated in the experiment. In both regressions, the dependent variable is the total amount that was donated by subjects. When focusing on the subsample (Table 2 – column 1), in the regression, we included a dummy taking the value of 1 for subjects who were involved in the Two associations treatment. When considering the whole sample, we included dummy variables identifying the subjects who were involved in the Two associations treatment, the Association and poverty fund treatment and the Association and disability fund treatment. The residual category is the subjects that were involved in the Single association treatment (Table 2 – column 4).

The control variables that were included in both regressions are the following: the subject's age in years, and the income level of the subject's household, which is measured on a 5-level scale between

1 (less than 15,000€) and 5 (more than 75,000€).[5] We also included a risk aversion measure based on the question "Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks? Please tick a box on the scale, where the value 0 means 'unwilling to take risks' and 10 means 'fully prepared to take risk." This scale proved to be a good measure of risk aversion (see Dohmen et al., 2011). We also include dummy variables taking the value of 1 for the following subject characteristics: female, believer, maiden/single, has a university degree or higher, student, stranger and was born in the province of Parma where the research has been carried out. Moreover, we include two dummy variables that respectively control for the knowledge of nonprofit associations and community foundations operating in the province of Parma. They take the value of 0 if the subjects declare in the post-experimental survey that they do not know of a nonprofit association (variable *Knowledge_ass*) or a community foundation (variable *Knowledge_found*) operating in Parma. Finally, we consider that the main results that are obtained through all the econometric estimates that are presented in the paper and reported in Table 1 are virtually unchanged if ordered logit estimates instead of OLSs are performed.[6]

Columns 1 and 4 of Table 2 clearly show that the amount of gifts increases as the number of organizations competing for donations increases, even when organizations do not differ in any way (Column 1).

We conclude the following.

Result 1 – Moving from one association to two, increases the total donations. Additionally, this result holds while keeping the associational characteristics constant.

This result provides empirical support for H1.

[5] Our main results do not virtually change if we replace this variable with a variable measuring the answers to the question "How well would you say that you are doing financially these days?" For this question, 1 represents "Living in a comfortable way", 2 represents "Living in an acceptable way", 3 represents "Barely getting by" and 4 represents "It goes really badly". In fact, the only difference in the statistical significance of our dummy variables of interest is for the *Association and poverty fund* treatment where the estimate of column 4 becomes significant at less than 1% (p=0.014).

[6] The only difference in the statistical significance of our dummy variables of interest is for the Association and poverty fund treatment where the estimate of column 4 becomes significant at less than 1% (p=0.020). The estimates available are upon request to the authors.

Table 2 – The effect of the density and variety of nonprofit organizations on total donations

	(1)	(2)	(3)	(4)
Dependent variable	Total amount donated			
Sample	Subjects involved in the Single association and Two associations treatment	Subjects involved in the Two associations and Association and disability fund treatment	Subjects involved in the Two associations and Association and poverty fund treatment	Subjects involved in all the treatments
Method	OLS	OLS	OLS	OLS
Two associations	1.934**			1.622**
	(0.899)			(0.798)
Association and disability fund		0.000		1.943***
		(0.969)		(0.723)
Association and poverty fund			0.755	2.146***
			(0.971)	(0.751)
Age	0.043	-0.079	0.078	0.032
	(0.089)	(0.092)	(0.107)	(0.047)
Female	1.279	1.353	2.806***	1.787***
	(0.897)	(0.880)	(0.967)	(0.571)
Believer	0.253	-0.414	0.514	0.090
	(0.862)	(0.907)	(0.872)	(0.540)
Maiden/single	0.049	-5.265*	0.985	-0.576
	(1.990)	(2.814)	(2.260)	(1.152)
Student	-2.142*	-0.865	-1.125	-1.769**
	(1.263)	(1.232)	(1.219)	(0.832)
Bachelor's degree	-1.166	-1.239	-1.363	-1.473*
	(1.901)	(1.448)	(1.596)	(0.838)
Income	0.163	-0.054	0.553	0.372
	(0.395)	(0.394)	(0.381)	(0.261)
Stranger	0.523	0.448	-0.133	0.452
	(1.308)	(1.345)	(1.265)	(0.840)
Parma	2.640**	1.453	-0.836	1.080
	(1.267)	(1.322)	(1.129)	(0.697)
Risk	0.003	0.150	0.021	-0.014
	(0.215)	(0.191)	(0.193)	(0.122)
Knowledge_found	3.160	0.413	-2.052	2.348*
	(2.072)	(3.189)	(5.062)	(1.393)
Knowledge_ass	-1.379	-0.053	0.216	-0.367
	(1.032)	(1.069)	(0.986)	(0.610)
Constant	6.575	15.050***	4.015	6.722**
	(4.063)	(4.979)	(5.097)	(2.606)
Observations	78	82	77	165
Adj R-squared	0.2228	0.0698	0.0218	0.1996
t-test of the equality of the coefficients for the Association and disability fund-Association and poverty fund				-0.203
				(0.720)
t-test of the equality of the coefficients for the Two associations-Association and disability fund				-0.321
				(0.799)
t-test of the equality of the coefficients for the Two associations-Association and poverty fund				-0.525
				(0.813)

*** p<.01, ** p<.05, and * p<.1

Variety of organizations and total donations

To investigate the effect of variety on donations, we compare the Two associations treatment with the Association and disability fund treatment and the Association and poverty fund treatment. In the first case, the variety increases exclusively in terms of the types of organizations that compete for donations. In fact, in the Association and disability fund treatment, subjects can donate to two different types of organizations, an association and a community foundation fund, that have the same charitable goal. When considering the Association and poverty fund treatment, the variety increases both in terms of the type of organizations competing for donations and in terms of the charitable purposes.

The average donation of the subjects that were involved in the Two associations treatment (mean 9.46 and std. dev. 3.98) does not seem to be different from those in the Association and disability fund treatment (mean 9.29 and std. dev. 3.74) and in the Association and poverty fund treatment (mean 9.24 and std. dev. 3.56). Additionally, the modal value concerning the donation amount is the same in the three distributions and is equal to 10 euros (Figure 1). Non parametric tests reveal that the distribution of the donations in the Two associations treatment is not significantly different from those in the other two treatments (Two associations vs. Association and disability fund: Wilcoxon rank-sum (Mann-Whitney) test= 0.373 and Prob > |z| = 0.7089; and Two associations vs. Association and poverty fund: Wilcoxon rank-sum (Mann-Whitney) test= 0.393 and Prob > |z| = 0.6946).

Columns 2 and 3 in Table 2 report the econometric estimates in which the effect of variety on donations is analyzed using the subjects that were involved in the Two association treatment and those involved in the Association and disability fund treatment or the Association and poverty fund treatment, respectively. In both estimates, the same control variables that were described in the previous section are considered. The absence of significance for the *Association and disability fund* dummy (column 2) and for the *Association and poverty fund* dummy (column 3) indicates that there are no differences between the behavior of subjects who have the opportunity to donate to two identical associations (*Two associations*) or to an association and a fund pursuing the same charitable goal (*Association and disability fund*) or a different goal (*Association and poverty fund*). The last two lines of Table 2 – column 4 report the t-test results that are useful for comparing subjects' behavior in the Two associations treatment vs. the Association and disability fund treatment and the Association and poverty fund treatment, respectively, when the entire sample of subjects that participated in the experiment is considered. They confirm that when the whole sample is considered, no statistically significant differences emerge with respect to the total amounts that are donated by subjects in these treatments.

We conclude the following.

Result 2 – Varying the types or the types and the purposes of the organizations competing for donations does not affect the total amount of the latter.

This result seems to confute H2.

Number and variety of organizations and per capita donations

Table 3 shows the donations that are collected by each organization in the various treatments. The second line of Table 3 reports the tests that analyze if the distributions of the donations to each organization in the three treatments (Two associations, Association and disability fund, and Association and poverty fund) are significantly different from the distribution of donations to the single association in the Single association treatment. The tests clearly show that the average amounts that are collected by each organization when competition increases, and more than one association competes for donations, decrease.

Table 3 - The effects of density and variety of nonprofit organizations on per capita donations

Treatment	Single associations	Two associations		Association and disability fund		Association and poverty fund	
Organization Type	Association	Association	Association	Association	Found	Association	Found
Average donation (Std. dev.)	7.78 (3.67)	4.65 (2.12)	4.81 (2.03)	4.29 (2.14)	5 (2.94)	4.56 (2.05)	4.69 (1.87)
Wilcoxon rank-sum (Mann-Whitney)		test= -4.312 Prob > |z| = 0.000	test= -4.068 Prob > |z| = 0.000	test= -5.133 Prob > |z| = 0.000	test= -3.962 Prob > |z| = 0.001	test= -4.808 Prob > |z| = 0.000	test= -4.590 Prob > |z| = 0.000
		test= 0.303 Prob > |z| = 0.7616		test= 1.101 Prob > |z| = 0.2711		test= 0.460 Prob > |z| = 0.6452	

Result 3 - The evidence that is reported in Table 2 seems to indicate that the total donations are inelastic when the number of organizations that compete for donations increases, both when the competition concerns only the number of organizations and when there is a greater variety in terms of the types of organizations and charitable purposes.

Finally, we do not find any difference when we examine the amount that is donated to each single organization that is considered in the different treatments. In fact, no difference emerges between the amounts that are donated to the two associations that are involved in the Two associations treatment or between the funds and the associations in the Association and disability fund treatment and the Association and poverty fund treatment (Table 3 - last line).

Conclusion

The theoretical analyses of the competition for donations among nonprofit organizations suggest that both the number and the variety of organizations should have positive impacts on the total collected donations. However, the empirical results for these connections are mixed, mainly depending on the variable that is used to measure fundraising performance. With this work, we make a step forward with respect to the existing literature by providing an experimental analysis in which we vary the number and the type of nonprofit organizations in the competition.

Our data clearly show that the number of organizations, but not their variety, positively affects donations.

Moreover, we show that the total collected donations are inelastic to the increase in the number of organizations that compete for donations. This implies that when the number of organizations competing for donations increases, the per capita donations decrease.

A main shortcoming of our experimental design concerns the maximum number of organizations that compete for donations. Future research may analyze if there is a threshold with respect to the effect of this variable on the total collected donations. Finally, in our experiment, we analyze two types of organizations and two charitable purposes characterizing their activity and we do not explore the effects on donations of all the possible combinations of these variables. Future research may investigate if our results hold when different types, purposes and combinations are considered.

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APPENDIX A

Instruction

[All treatments]

Good evening, you're about to participate in a research activity on economic decisions.

You will receive 5 euros for your participation.

You will also receive a possible amount that will depend on one of the decisions you will be asked to make.

During the activity you will make two decisions, but you will only be remunerated for one of them. Which of the two decisions will be remunerated will be determined by a draw that will take place at the end of the activity. Each decision has the same probability of being drawn.

In each decision you will be asked to decide on the use of a sum, equal to EUR 15 in the first decision and equal to EUR 15 in the second decision. The two decisions are independent of each other: the decision you take in the first decision will not affect the outcome of the second decision and vice versa.

Once the two decisions have been taken, you will be asked to complete a questionnaire.

The whole activity will last about 1 hour.

We will soon read together the instructions concerning the exact course of the activity.

If you have any questions, please contact a staff member by raising your hand.

Remember that you are not allowed to communicate with other participants during the activity.

Before reading the instructions, I will pass between the different stations and ask you to take an envelope out of this box. The envelope contains your personal code, which will be important to ensure your anonymity at all stages of the research. In fact, we will record your choices through this personal code, rather than through your name. It will also be the document that will allow you to be paid at the end of the research, so it is important that you keep it with care and do not show it to anyone but us researchers.

First decision - Instructions

I will now move between the different stations and give you an envelope containing the material needed to make the first decision.

You can open the envelope. In the envelope you will find:

15 cards each with the inscription 1€. If this decision is drawn at the end of the research activity, these cards will be converted into cash;

two/three envelops [two envelops in the Single association treatment and three in all the other treatments] on each of which there is an inscription.

An envelope bears the word PERSONAL. The second envelope bears the word [ASSOCIATION in the Single association treatment, in the Association and disability fund treatment and in the Association and poverty fund treatment; ASSOCIATION-A in the Two associations treatment] accompanied by a brief description. The third envelope report the word [FUND in the Association and disability fund treatment and in the Association and poverty fund treatment; ASSOCIATION-B in the Two associations treatment] accompanied by a brief description.

Please attach a sticker with the personal code on the back of each of these two/three envelops [two envelops in the Single association treatment and three in all the other treatments].

The first decision is as follows.

You will have to insert in the PERSONAL envelope the number of cards of 1€ corresponding to the amount you want to keep for yourself. You will have to insert in the [ASSOCIATION in the Single association treatment, in the Association and disability fund treatment and in the Association and poverty fund treatment; ASSOCIATION-A in the Two associations treatment] envelope the number of cards corresponding to the amount you want to donate to an association with the characteristics described on the envelope. You must insert in the envelope [FUND in the Association and disability fund treatment and in the Association and poverty fund treatment; ASSOCIATION-B in the Two associations treatment] the number of cards corresponding to the amount you want to donate to [a fund in the Association and disability fund treatment and in the Association and poverty fund treatment; an association in the Two associations treatment] with the characteristics described on the envelope.

If at the end of the research activity this decision will be drawn, each of you will receive, in addition to the 5 € of participation that have been delivered to you, a number of euros corresponding to the number of cards placed in the envelope PERSONAL.

The euros placed in the envelope [ASSOCIATION in the Single association treatment, in the Association and disability fund treatment and in the Association and poverty fund treatment; ASSOCIATION-A in the Two associations treatment] will be donated to an association, [which we will call association A in the Two associations treatment], which corresponds to the description proposed on the envelope. You can personally attend the donation at the end of the session. The euro inserted in the envelope [FUND in the Association and disability fund treatment and in the Association and poverty fund treatment; ASSOCIATION-B in the Two associations treatment] will be donated to [a fund in the Association and disability fund treatment and in the Association and poverty fund treatment; an association in the Two associations treatment], [which we will call association B in the Two associations treatment], which corresponds to the description proposed on the envelope. You can personally attend the donation at the end of the session. [Note that the association A and B have the same characteristics, but are two different associations in the Two associations treatment].

Is it clear how you will make this decision?

Once everyone has concluded, I will move on to withdraw your decisions. I will ask you to put the sealed envelopes in this box which refers to decision 1.

[The second decision included in the experiment is not analysed in this paper]